HANDOUT 2

Recommended alternatives for acceptable biological catches (ABCs) and total catch optimum yields (OYs) (mt) for 2007 and 2008 for selected species of interest to CA.

Stock	No Action Alternative				2007 and 2008 Action Alternatives a/												
	2005 ABC	2005 OY	2006 ABC	2006 OY	Alt 1 2007 ABC	Alt 2 2007 ABC	Alt 1 2008 ABC	Alt 2 2008 ABC	Alt 1 OY	Alt 2 OY	Alt 3 OY	Alt 4 OY	Alt 5 OY	Alt 6 OY	Council 2007 ABC b/	Council 2008 ABC b/	Council OY b/
Lingcod - coastwide a/	2,922	2,414	2,716	2,414	6,706		5,853		6280	6088					6706	5853	
S. of 42 (CA)		612		612					722	530							
WIDOW ROCKFISH	3,218	285	3,059	289	5,334		5,144		0	329	456	917	1369		5334	5144	456
CANARY ROCKFISH c/	270	47	279	47	172		179		0	24	44	68			172	179	44
Chilipepper Rockfish	2,700	2,000	2,700	2,000	2,700		2,700		2000	2700					2700	2700	
BOCACCIO	566	307	549	309	602		618		0	149	218	315	424		602	618	
COWCOD - S. of 36 (Conception area)	5	2.1	5	2.1	17		17		0	4	7	9	11		17	17	
COWCOD - Monterey area	19	2.1	19	2.1	19		19		0	4	7	9	11		19	19	
YELLOWEYE	54	26	55	27	47		47		0	12	17	21	24	27	47	47	
Nearshore Species																	
Black Rockfish (OR-CA)	753	753	736	736	725		719		722						725	719	722
Minor Rockfish North	3,680	2,250	3,680	2,250	3,680		3,680		2250	2270	2290				3680		
Nearshore Species		122		122					122	142	162						
Minor Rockfish South	3,412	1,968	3,412	1,968	3,403		3,403		1753	1855	1898	2006			3403		
Nearshore Species		494		494					413	515	558	666					
Remaining Rockfish South	854	689	854	689	854		854		689	791	867	942					
Blackgill	343	305	343	305	292		292		292	292	292	292					
Gopher	97	48.5	97	48.5	302		302		49	151	227	302					
California scorpionfish	Not specified - managed as part of Minor RF South				137	219	137	219	137	219							
Cabezon (off CA only)	103	69	108	69	94		94		69						94	94	

a/ The Council elected to average OY projections for 2007 and 2008 and analyze/specify the average OYs for each year. However, ABCs are year-specific.
b/ Council ABC and Council OY represent the Council's preferred harvest alternative for 2007 and 2008.
c/ The canary rockfish OY alternatives assume a 50:50 commercial:recreational catch share. The OY varies by the commercial:recreational catch share due to the fact that the recreational fishery takes smaller fish and therefore has a greater "per ton" impact than the commercial fishery. Therefore, a higher OY would result from a higher commercial catch share.

California Department of Fish and Game
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Explanation of OY Alternatives

Lingcod Alt. 1: Coastwide OY is the sum of the OY for the assessment areas north and south of 43° N lat. The north (Columbia and U.S.-Vancouver areas) and south (Conception, Monterey, and Eureka areas) OYs projected from the assessment. No 40-10 adjustment for the south OY. OYs north and south of 42° N lat. at the California-Oregon border were re-apportioned by deriving the percentage of the 2005-06 OY estimated for the area between 42 and 43° N lat. (107 mt/719 mt) to the estimated OY N of 43° N lat. in 2007 to determine an estimated 2007 OY for the area between 42 and 43° N lat. (130 mt). This was added to the estimated 2007 OY for north of 43° N lat. to determine an appropriate OY for north of 42° N lat. and subtracted from the 2007 OY for south of 43° N lat. to determine an appropriate OY for south of 42° N lat. Lingcod Alt. 2: OYs, including re-apportioned OYs are determined the same way as in Alt 1, but the southern OY is adjusted using the 40-10 rule since the spawning biomass south of 43° N lat. is estimated to be less than B40% in 2007.
Widow Alt. 1: Based on the fishing mortality associated with the scorecard estimated catch for 2005 projected forward; Alt. 2: Current SPR harvest rate (93.6%) applied to the exploitable biomass. Alt. 3: Re-estimated Pmax = 94%; Alt. 4: Re-estimated Pmax = 80%, SPR harvest rate = 88.6%; Alt. 5: Re-estimated Pmax = 60%.
Canary Alt. 1: OY under a re-estimated Pmax of 60%, which is P0. SPR harvest rate = 93.5%; Alt. 2: Applies the SPR harvest rate of 88.7% from the rebuilding plan to the new estimated exploitable biomass; Alt. 3: OY under a re-estimated Pmax of 50% and SPR harvest rate of 83.1%.
Chilipepper: No change from status quo. The stock is above B40% based on the 1998 assessment. The OY is reduced from the ABC as a bocaccio bycatch control mechanism.
Bocaccio Alt. 1: Based on the fishing mortality associated with the scorecard estimated catch for 2005, projected forward; Alt. 2: OY under the old Pmax of 80%; Alt. 3: Current SPR harvest rate (69.2%) applied to the exploitable biomass; Alt. 4: Re-estimated Pmax = 50%.
Cowcod: OY alternatives are derived from the new assessment of the stock south of 36° N latitude (Conception INPFC area). The same OY alternatives are recommended for the Monterey area north of 36° N latitude based on comparable catch histories in these two areas. Alt. 1: Re-estimated Pmax = 80%; Alt. 2: Re-estimated Pmax = 70%; Alt. 3: Re-estimated Pmax = 60% (= P0); Alt. 4: Re-estimated Pmax = 50%.
Yelloweye Alt. 1: OY under the current Pmax of 90%. SPR harvest rate = 82.1%; Alt. 2: Re-estimated SPR harvest rate (76.4%) applied to the exploitable biomass to maintain a Ptarget of 50%; Alt. 3: estimated Pmax = 80%; Re-estimated SPR harvest rate = 71.7%; Alt. 4: Re-estimated Pmax = 50%.
Black Rockfish (OR-CA): ABC/OY projected from the 2003 assessment. OY = ABC because the stock is above the target of B40%.
Minor Rockfish North - Nearshore: When black rockfish was originally removed from the northern minor nearshore rockfish OY, a ratio of black to blue rockfish catch was used to determine what proportion of that OY was attributable to black rockfish. However, due to the variability of blue rockfish catches, there is some concern that this ratio (92%:8% black to blue rockfish) under represents blue rockfish catch and therefore the resulting OY (without black rockfish). To account for this uncertainty (that is, a range of possible levels of black rockfish removal from the OY), three OY alternatives are presented. Alt.1. Status quo OY; Status quo OY + 20 mt; Status quo OY + 40 mt.
Minor Rockfish South: The ABC for Minor Rockfish South is adjusted to account for the reassessment of blackgill rockfish and the new assessments for gopher rockfish and California scorpionfish in three ways. The status quo contribution of blackgill to the ABC (343 mt) was removed from the complex ABC and replaced with the new blackgill ABC/OY of 292 mt (based on the 2007-2008 average ABC/OY; 2007 = 294 mt, 2008 = 290 mt) for an overall reduction of 51 mt. The status quo contribution of gopher rockfish (97 mt) was removed and replaced with the new gopher ABC/OY of 302 mt (based on the 2007-2008 average ABC/OY; 2007 = 340 mt, 2008 = 264 mt) resulting in an overall increase of 205 mt. The status quo contribution for California scorpionfish (163 mt) was removed from the ABC as this species will now be managed under its own ABC/OY.
Minor Rockfish South - Nearshore: The Council adopted a southern minor nearshore rockfish species OY for 2003 of 541 mt. This OY was based upon the Groundfish FMP policy for specifying OY for unassessed species using 50% of recent landings, and was recalculated from the 2001-2002 OY of 662 mt using updated estimates of recreational and commercial harvest. For the 2004 southern minor nearshore rockfish species OY, an adjustment was made to account for removal of black rockfish; however, this adjustment started with the 2002 OY of 662 mt and not the 2003 OY of 541 mt. The resulting OY of 615 mt was adopted by the Council for the 2004, and the 2005-2006 management cycles. For the 2007-08 management cycle, the Minor Nearshore Rockfish South OY is corrected with the black removal of 47 mt taken from the more up-to-date 2003 OY of 541 mt, resulting in a value of 494 mt. This initial value for the southern minor nearshore rockfish species OY then is adjusted to account for the new California scorpionfish and gopher rockfish assessments. The current contribution for California scorpionfish of 81.5 mt (based upon 50% of recent landings during 1994-1999) is removed from the combined OY in all four alternatives because it will have its ov
Minor Rockfish South - Nearshore (continued): Because gopher rockfish cannot be managed separately from other nearshore rockfish species without significantly increasing bycatch and because of uncertainty over the assessment due to poor data quality, gopher rockfish is recommended to not be removed from the southern minor nearshore rockfish species OY, but instead have a point of concern set at a level determined appropriate to the adopted OY. The resulting alternatives for the southern minor nearshore rockfish that incorporate changes for California scorpionfish and gopher are provided. Alt. 1: OY includes the current contribution for gopher rockfish (48.5 mt); Alt. 2: OY determined by removing the current contribution for gopher rockfish (48.5 mt) from the OY and then increasing the OY by 50% of the new gopher ABC/OY of 302 mt (based on the 2007-2008 average ABC/OY; 2007 = 340 mt, 2008 = 264 mt); Alt. 3: OY determined by removing the current contribution for gopher rockfish (48.5 mt) from the OY and then increasing the OY by 75% of the new gopher ABC/OY of 302 mt (based on the 2007-2008 average ABC/OY; 2007 = 340 mt, 2008 = 264 mt); Alt. 4: OY determined by removing the current contribution for gopher rockfish (48.5 mt) fron
CA scorpionfish: The California scorpionfish assessment used a recreational catch data stream based upon Commercial Passenger Fishing Vessel (CPFV) logbook data expanded to total recreational catch using a proportion of CPFV to total recreational catch (based upon Marine Recreational Fisheries Statistics Survey catch history). The Council's Scientific and Statistical Committee approved this assessment, with the caveat that the ABC/OY from this assessment could only be related to recreational catch calculated in the same manner as this catch stream. CPFV logbook data, while valuable for stock assessment analyses, are not collected in as timely a manner as needed for inseason monitoring. Consequently, a method was derived with the assistance of the primary stock assessment author, Mark Maunder, to modify the ABC/OY from the assessment so that it could be tracked using California Recreational Fisheries Survey (CRFS) catch estimates. This method takes the recreational portion of the stock assessment ABC/OY, multiplies it by the CPFV proportion calculated from the MRFSS data, and then divides it using the proportion of CPFV catch observed in the 2004 CRFS data.
CA scorpionfish (continued): Both the original stock assessment ABC/OY and the modified stock assessment ABC/OY are provided as alternatives for California scorpionfish. Both alternatives are based upon the assessment model that includes sanitation district data. The first alternative provides the modified ABC/OY. The second alternative provides an ABC/OY of 219 mt based on an average of the 2007 and 2008 ABC/OYs from the stock assessment (2007 = 236 mt, 2008 = 202 mt). Alt. 1: This ABC/OY of 137 mt was derived using the recreational portion from the ABC/OY (based on the 2007-2008 average; 2007 = 222.2 mt, 2008 = 191.0 mt), multiplying it times 53%, dividing it by 88%, and then adding this modified recreational portion to the commercial portion of the ABC/OY (based on the 2007-2008 average; 2007 = 13.4 mt, 2008 = 11.5 mt); Alt. 2: The second alternative provides an ABC/OY of 219 mt based on an average of the 2007 and 2008 ABC/OYs from the stock assessment based upon the expanded CPFV logbook catch stream (2007 = 236 mt, 2008 = 202 mt).

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Cabezon (CA): The ABC is recalculated based on the new assessment. The recommended ABC is the sum of the 2007-2008 average projected ABCs for the northern substock (71 mt) and southern substock (23 mt) calculated using the proxy F50% harvest rate. The status quo OY is recommended since the sum of the average OYs for the northern and southern substocks under the California default 60-20 rule approximates this value.